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AUTHOR Ray, Brian D.
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ABSTRACT

Whether the constructs of value consistency and social capital can be used to explain the achievement outcomes of home education is explored. It is evident that children exposed to home schooling experience a high degree of value consistency. The values to which such children are exposed in education are those of their families. This would seem to encourage a high degree of social capital, a strong interest on the part of the parent in developing intensive and warm relations with the child. A hypothesis can be formed to suggest that high value consistency and social capital offset the disadvantages of the lack of a certified teacher and the physical capital offered by public and private schools. A review of research on home schooling indicates that children educated at home achieve at an above-average level. The concept of educational resource niche--a space derived from social capital, human capital, and physical capital--can be suggested as a predictor of achievement level for students in various types of educational environments. One figure illustrating the educational resource niche is included. There are 24 references. (SLD)

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# Social Capital, Value Consistency, and the Achievement Outcomes of Home Education

Brian D. Ray

School of Education

Seattle Pacific University

Seattle, Washington 98119

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Running Head: HOME EDUCATION ACHIEVEMENT

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Students educated at home do well in terms of academic achievement and appear to be socially and emotionally well adjusted (Ray, 1988). These positive findings appear in the research despite the fact that the home educated are generally taught by untrained teachers, their parents, without the benefit of the resources offered by conventional schools. Home education, which involves a sizeable number of American students, is perhaps the fastest growing form of education today (Knowles, 1988; McCurdy, 1985). However, home education is not included in Coleman and Hoffer's (1987) discussion of orientations to schooling. Their discussion encompasses two orientations to schooling, public and private. Public schools are seen as an "instrument for releasing a child from the blinders imposed by accident of birth into this family or that family" (Coleman & Hoffer, p. 3). Private schools, contrariwise, are an extension of the family, including the family's values. The private school helps transmit the culture of the family to the children. It is the view of this author that Americans, and those in other countries (e.g., Canada, England, New Zealand), have already recognized and embraced home education as a third (and by no means historically new) orientation to schooling. Home education is an intense form of school as an extension of the family. Research shows that the primary reason parents articulate for teaching their own children has to do with transmitting to their children a particular set of religious beliefs, values, and overall life philosophy (Ray, 1988; Van Galen, 1988; Wartes, 1987). Secondary, yet still important, reasons for home schooling

include academic excellence, closer family relations, and avoidance of negative influences in public schools. These facts about home schools suggest that their students experience a high degree of what Coleman and Hoffer call "value consistency." That is, the values to which the children are exposed in school (in the home) are consistent with the values of the parents (who are the main teachers). Further, these children apparently experience what Coleman and Hoffer term "social structural consistency." That is, the adults that these children experience in school are closely linked to the family; in fact, they are family, the parents. As a final point related to the work of Coleman and Hoffer, there may exist in home school settings a high degree of "social capital." That is these parents express a strong interest in developing extensive and warm relations with their children, their students. It appears that several constructs developed by Coleman and Hoffer have direct relevance to home education, a third orientation to schooling.

The purpose of this paper is to explore whether the constructs of value consistency and social capital can be used to explain the achievement outcomes of home education.

## Predictions

Several variables can be considered when attempting to predict the academic achievement of home school students. Family background (or human capital), certification status of the teacher, physical capital, value consistency, and social capital are considered herein. In terms of the first variable, family background, home school families are in the middle income bracket of about $20,000 to $30,000 per year (Ray,

1988). Limited information shows the large majority to be white-Anglo (Mayberry, 1988). The parents have about two years of formal education more then the average American (Ray, 1988). This brief synopsis of family background would probably predict slightly above average achievement on the part of the home schooled.

Second, one can consider the training of the teacher in the home school. Logic suggests that the majority of home school mothers (who are usually the teachers) are not certified teachers. The fact that most have not finished college also indicates that most are not certified teachers. Wartes (1988) reported that 17% of the home school parents were certified teachers and Rakestraw (1987) found that 27% of the parents had been certified to teach. The implication of formally training people to become certified teachers before they enter the schools, the standard practice in the United States, is that such training will enhance the academic achievement of students. The expressed concerns of educators (National Association of Elementary School Principals, 1989-1990; National Education Association, 1988) that non-certified teacher/parents cannot provide adequate instruction to children also suggests that certification causes, or is at least correlated to, higher achievement. These considerations would lead to the prediction that the home schooled will do worse in achievement than their public school peers. On the other hand, various reports on teacher effectiveness suggest an unclear relationship between formal teacher training and teacher effectiveness (e.g., Medley, 1982; Peavey, 1987; Yager, Hidayat, & Penick, 1988). This case would predict the home schooled doing about the same as conventional school students.

Physical capital is the third consideration. Coleman and Hoffer (1987) explained that physical capital takes the form of tools, machines, and other productive equipment. In the school setting, examples would be computers, microscopes, films, shop tools, and educational games. Based on anecdotal reports, logic, and this author's extensive experience with home school families, home schools possess much less than do public and private schools in the way of physical capital. This observation would lead to the prediction of slightly lower achievement by the home educated.

It is quite evident from the research (e.g., Ray, 1988; Van Galen, 1988; Wartes, 1987) that home school students are experiencing a high degree of the fourth variable, value consistency. In order to make a prediction about achievement based upon value consistency, value consistency can be considered in relation to structural consistency and social capital. First, value consistency should increase social capital since having shared values should increase the likelihood of parents and children developing strong interpersonal relations. Second, Coleman and Hoffer (1987, p.7) have explained that social structural consistency between generations creates a "... functional community, a community in which social norms and sanctions, including those that cross generations, arise out of the social structure itself, and both reinforce and perpetuate that structure." This functional community, in turn, contributes social capital or strengthened relations between persons. Social capital facilitates productive activity--learning in this case. Since it appears that home schooling encourages both value consistency and structural consistency and thus increases social capital, it is predicted that the achievement level of the home educated will be considerably higher than average.

In summary, the family background variable predicts slightly higher that average achievement, certification status of the teacher (parent) and physical capital predict somewhat lower than average achievement, and value consistency and social capital predict significantly higher achievement. Keeping in mind the qualitative nature of all these predictions, a synthetic hypothesis would be that home educated students will achieve slightly higher than their public school peers.

## Achievement Outcomes

A number of authors have previously reported on the achievement of home school students (see Ray, 1988). A few will be mentioned here for illustrative purposes. Rakestraw (1988) examined the Stanford Achievement Test (SAT) scores of 84 students in Alabama and found that they scored as well as their public school peers. Delahooke (1986) found her sample of home school students in California to be achieving just as well as private school students to whom she compared them. The Oregon Department of Education (1988) reported that 73% of 1,658 home schooled 1987-88 scored above the 50th percentile on standardized achievement tests. The Tennessee Department of Education (1988) reported that the 244 home schooled during 1987-88 averaged on the SAT at the 78th percentile in reading and at the 69th percentile in math. Wartes (1989), with sample sizes ranging from 419 to 873, has reported that for several years the home schooled average at about the 66th percentile on the SAT.

This author worked with Wartes (1989) (and is currently working on a new data set) to gather data on the achievement of the home schooled as related to parents'

Christian orthodoxy and beliefs about the origins of life (i.e., evolution v. creation models). One of the reasons for this study was to answer the question, "Will home school students' achievement be affected by their parents' religious and other personal beliefs?" (Their is some question about whether the highly religious will learn as much as others. However, the related literature and conceptual framework will not be discussed herein.) A preliminary data analysis indicates that parents' orthodoxy and beliefs about the origins of life explain little of the variance in home educated students' achievement ($R^2 = .01$, $p = .09$). That is, the children of the strongly Christian or of those with strong creation model views of the origins of life neither do better nor worse in achievement than the children of parents with opposite orthodoxy and beliefs about origins.

Two studies have specifically addressed the relationship between the teacher certification status of the parent and the achievement of the home schooled. Wartes (1988, p. 26) found a weak positive relationship between the certification status of the parent and children's achievement, but also found that "this result did not hold when one considers students who have been homeschooled 2 years or longer. It also did not hold when non-teacher parents having a roughly equivalent level of education to a teacher were compared." Rakestraw (1988) found no relationship between the teacher certification status of the parent and home school children's achievement.

One might also consider studies indirectly related to achievement. Quine and Marek (1988) found that the solely home educated developed cognitively just as well as did a group that was home schooled and received special instruction in science and

math, and both groups were cognitively superior to the American average. Ray (1989) found that the home educated were significantly higher in their attitudes toward doing laboratory science than were both those in public and private school. Such high attitudes would theoretically predict higher science learning in favor of the home educated. The research in toto on achievement and home education shows the home educated doing equal to or better than their conventional school peers (Ray, 1986, 1988).

It is important to note that the preceding studies on the achievement of the home schooled did not control for various important variables when comparing scores to the standardized test norms. Factors such as parent education level, ethnicity, and economic status were generally not controlled. One could also argue for the control of factors such as class size. That is, home schools typically have a student to teacher ratio of 3 to 1. On the other hand, it could be argued that this ratio is an integral part of the home education milieu, and therefore should not be a controlled variable. Similarly, Coleman and Hoffer (1987) allowed class size to stand as an integral difference between some types of schools in their study. Therefore, it is problematic to make a statement about the relative effectiveness of home schooling as compared to public or private schooling. This should be kept in mind throughout the remainder of the speculations in this paper.

## Discussion

The use of family background (or human capital), teacher certification status of parent/teachers, value consistency, and social capital to predict the achievement

outcomes of home educated students led to the hypothesis, albeit not firmly rooted in quantitative relations, that these students would perform slightly higher than their public school peers. A crude synthesis of the achievement levels of the home educated typically show them to be about .50 standard deviation above average, a practically significant value. In addition, this author's analysis of student achievement as related to parents' Christian orthodoxy and beliefs about the origins of life might be interpreted as supporting the importance of value consistency to student achievement. This group of home school students is achieving above average, and there is no significant relationship between parents' orthodoxy and beliefs and student achievement. The students are taught by their own parents so that the values of their teachers (their parents) are consistent with the values of their parents. Therefore, regardless of the particular religious beliefs of he parents, value consistency is more likely to exist in home education than in public or private education and contribute to social capital and thus to positive learner outcomes. More research would have to be done to determine with more confidence whether various particular religious beliefs of parents have a significant impact on the achievement of the home schooled.

Theoretical models might be used to understand whether the variable of orientation to schooling has a significant impact on student achievement. Investigators might explore the environment of the home school in order to determine why home educated students appear to have such high levels of achievement in spite of the fact that only a moderate amount of human capital exists in the family and their parents usually are not certified or formally trained teachers.

For example, Keeves (1975) identified the home, the school, and the peer group as the three major classes of non-personal variables which influence student mathematics and science achievement. These are content areas in which the home educated do well (Ray, 1988; Wartes, 1989). Schibeci (1989) considered Keeves' variables and presented a model suggesting that "home background" influences three sets of student variables (i.e., entry behaviors, early outcomes, and final outcomes). These three sets of student variables are related to initial science-related attitude, general attitude, and final science-related attitude, respectively. It is notable that within the home education milieu Keeves' three variables (home, school, and peer group) are, to a great degree, collapsed into one. That is, the education mainly occurs at home, and the primary peer group is siblings or a close knit group of other home school children of parents who share similar values. Keeping this fact in mind, Coleman and Hoffer's (1987) construct of social capital, and its relationship to physical capital and human capital, might be germane.

Coleman and Hoffer (1987) explained that physical capital takes the form of tools, machines, and other productive equipment (e.g., computers and microscopes in the schools). Human capital has to do with developing skills and capacities in people to make them more productive (e.g., skills and knowledge acquired by an individual in school). Social capital is even less tangible than human capital and it "... exists in the relations between persons" (Coleman & Hoffer, p. 221). Coleman and Hoffer presented trust as a form of social capital. "A group within which there is extensive trustworthiness and extensive trust is able to accomplish much more than a comparable

group without that trustworthiness and trust" (Coleman & Hoffer, p. 221). They give evidence that even if families possess high levels of human capital, the children may be at an academic disadvantage if there is little social capital in the family. This low level of social capital might be caused by the physical absence of family members (i.e., a "structural deficiency") or the absence of strong relations between children and parents (i.e., a "functional deficiency").

Coleman and Hoffer (1987, p. 225) developed a two-dimensional (social capital and human capital) matrix that is helpful in describing families. A third factor, physical capital, can be added to their matrix to form a three-dimensional space useful for describing children's learning environments (Ray, 1989) (Figure 1). A learner could be described as having a niche within this environment of physical, human, and social capital; that is, an educational resource niche (ERN).

A learner's ERN might be used to predict his or her achievement level. If it is postulated that there is a hierarchy of importance from social capital down to human capital down to physical capital with respect to effect on academic achievement, then Figure 1 might be used to explain the apparent high achievement of the home educated. Figure 1 shows that numerical values might be assigned to the presence or absence of the three hierarchically arranged types of capital. For example, the presence of social capital would be denoted by a 6 and the absence thereof by a 1, while the presence of human capital would be worth a 4 and the absence thereof a 1. The effects of the different types of capital might be assumed to be additive. For example, a home school family in which there is social capital (value = 6) but a lack of

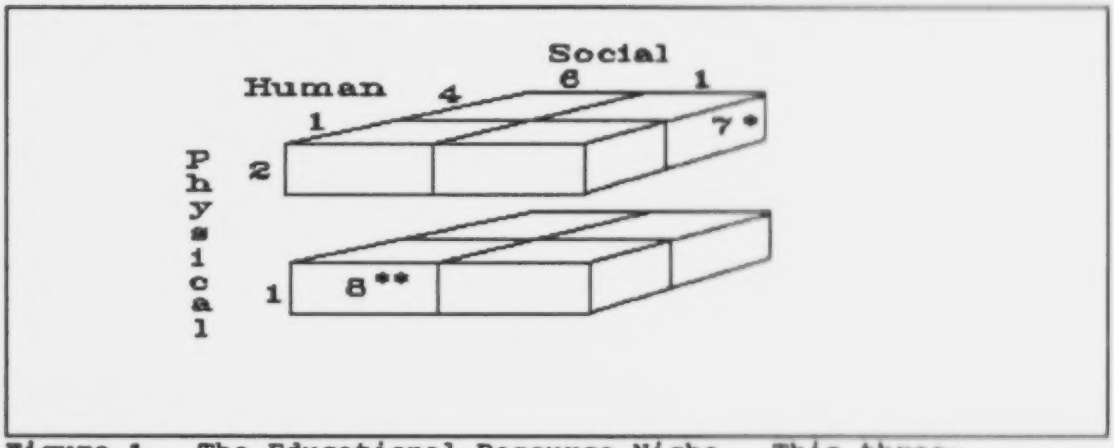


**Figure 1.** The Educational Resource Niche. This three-dimensional model describes a learner's niche in the environment of physical, human, and social capital. Absence of capital = 1; presence of capital = 2, 4, or 6.

human capital (value = 1) and physical capital (value = 1) would still be expected to perform better (total capital = 8) than a conventional school student who experiences physical capital (value = 2) and human capital (value = 4) but a lack of social capital (value = 1) (total capital = 7). Social capital, or strong relations between parents and children, might explain the positive relationship between home schooling and student achievement. This three-dimensional model that encompasses the ERN might help explain why home school students could achieve well even if their parents are not professionally trained teachers, have relatively low levels of income, and lack resources at home such as computers, sophisticated laboratory equipment, and encyclopedias.

The preceding model is speculative and needs further exploration. Before the ERN of a student could be reliably ascertained and used for prediction of achievement, much quantification and statistical control would be necessary. Clear criteria for

presence or absence of the three types of capital would have to be developed. Perhaps the amount of each type of capital would be divided into more than one level, or simply be measured on a continuum.

The educational resource niche, based on Coleman and Hoffer's (1987) types of capital, could be used to better understand and predict the achievement levels of various types of students in a variety of learning environments. The ERN could be used in further research to generate and test hypotheses regarding the home educated (and others) and their performance in academic, affective, and psychomotor areas of development.

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